

Appendix Five – Glint and Glare report

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FORGESOLAR GLARE ANALYSIS

Project: **Hamilton Solar Project + BESS**

Site configuration: **Hamilton SF Glint Glare-temp-0**

Analysis conducted by Yannick Zapf (yannick.zapf@yzconsulting.com.au) at 01:00 on 05 Aug, 2021.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
2-mile flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

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SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
 Time interval: 1 min
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad
 Site Config ID: 57010.10188



PV Array(s)

Name: Hamilton SF Array
Axis tracking: Single-axis rotation
Tracking axis orientation: 0.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (m)	Height above ground (m)	Total elevation (m)
1	-37.784358	141.989061	181.28	1.00	182.28
2	-37.785943	141.989136	179.67	1.00	180.67
3	-37.785740	141.983374	179.53	1.00	180.53
4	-37.784146	141.983439	181.16	1.00	182.16

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Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (m)	Height (m)
OP 1	1	-37.787118	142.001885	185.87	2.00
OP 2	2	-37.793335	141.994127	185.62	2.00
OP 3	3	-37.795870	141.976615	182.66	2.00
OP 4	4	-37.794446	141.967179	182.35	2.00
OP 5	5	-37.794090	141.966299	183.86	2.00
OP 6	6	-37.789886	141.970363	185.19	2.00

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GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
Hamilton SF Array	SA tracking	SA tracking	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0

Results for: Hamilton SF Array

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0

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Receptor	Green Glare (min)	Yellow Glare (min)
OP 6	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

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